State of Washington Department of Ecology

FOCUSED FEASIBILITY STUDY FOR INITIAL REMEDIAL MEASURE AT COLBERT LANDFILL

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FOCUSED FEASIBILITY STUDY
for
INITIAL REMEDIAL MEASURE
at
COLBERT LANDFILL
COLBERT, WASHINGTON

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I. Executive Summary

This Focused Feasibility Study for the Initial Remedial Measure (IRM) at Colbert Landfill has been prepared to document the analysis of the need, and potential alternatives, for an Initial Remedial Measure at the Colbert Landfill site in Colbert, Washington.

The Colbert Landfill site was used improperly for the disposal of several organic chemical wastes. Subsequently, 1,1,1-trichloroethane and trichloroethylene contamination have been documented in 20 residential wells in the proximity of the landfill. The level of 1,1,1-trichloroethane exceeded the U.S. Environmental Protection Agency's (EPA) recommended maximum contaminant level allowable in drinking water. Therefore, by exceeding this contamination level, an unreasonable risk to public health is present if residents continue to consume the contaminated groundwater.

The recommended Initial Remedial Measure for the Colbert Landfill site is the Gleneden Plan, which is a permanent alternative water supply system for the residents in the area of groundwater contamination. The estimated cost of this plan's implementation is $1,165,000. The analysis of the alternative water supply systems was primarily performed by Mr. William R. Dobratz and Mr. James A. Legat of the Spokane County Utilities Department (SCUD), and the Spokane Board of County Commissioners. This analysis of the various alternative remedial measures required a massive

amount of effort and time. Development and evaluation of alternatives took three years to complete, resulting in the selection of the Gleneden Plan as the alternative of choice. Mr. Dobratz and Mr. Legat compiled the documentation of this decision making process, and submitted it to the Washington Department of Ecology (WDOE) to enable us to prepare this document. Their cooperation and assistance in this document's preparation was greatly appreciated.

II. Historical Background and Proposed Response

In September 1968, Spokane County opened a 30-acre landfill approximately 2.5 miles north of the town of Colbert in Spokane County, Washington. The landfill area is located in the SE-1/4 SE-1/4 Section 3, Township 27 North, Range 43 East, W.M. (see Exhibit A). The previously used Colbert Township Dump is adjacent to the active landfill's south side. Over a five-year period (1975 to 1980) Key Tronic Corporation used this landfill as a disposal site for their spent industrial solvents. Fairchild Air Force Base also disposed of several hazardous compounds at the landfill. In the Remedial Action Master Plan (RAMP) on Colbert Landfill prepared by CH2M Hill for the U.S. Environmental Protection Agency (EPA), the following quantities of the disposed hazardous materials were reported:

Source	Compound	Estimated Quantity (gal/month)
Key Tronic Corporation	Methylene Chloride (20-25% acrylic resins by weight)	400
	1,1,1-trichloroethane (20-25% acrylic resins by weight)	150-200
	Mix of above (10% acrylic resins by weight)	100-150
Fairchild Air Force Base	Methyl Ethyl Ketone	25
	Poly Thinner	12.5
	Enamel Thinner	10
	Toluene	10
	Paint Remover	10
	Primer Wastes	10

Spokane County Utilities Department's (SCUD) normal operating procedure at the landfill involves digging trenches approximately 30 feet wide and 20 to 25 feet deep. These cuts are usually oriented north to south. The waste disposed in these trenches was compacted several times and covered with 6 inches of soil daily. Key Tronic brought the aforementioned chemical mixtures to the landfill site in drums. These drums were opened on site, and the contents were poured over the refuse present in the trenches. The solvents were absorbed by the refuse and soil, and the drums were removed from the landfill.

The Eastern Regional Office of Washington's Department of Ecology (WDOE) became aware of problems at the landfill in October 1980. It was at this time that a resident near the landfill registered a complaint to WDOE regarding hazardous materials which were being disposed of at the landfill. The ensuing investigation confirmed Key

Tronic's disposal method. WDOE issued an order for Key Tronic to cease disposing the solvents in the dump. Key Tronic complied with this order.

Spokane County Utility hired George Maddox and Associates to complete a three phased study of the hydrogeology of the landfill site. In November 1980, the first study phase, which developed a conceptual model of the subsurface hydrogeology, was completed. During Phase I, a short term groundwater quality monitoring program was implemented along with a historical review and data acquisition of the site. Phase II expanded the groundwater quality sampling and analysis with the drilling and construction of exploratory monitoring wells. This phase was completed in June 1982. Phase III was conducted to monitor a complete hydrologic cycle for this area, and was completed January 1984.

In addition to the Maddox studies, CH2M Hill prepared a Remedial Action Master Plan (RAMP) on feasibility studies and remedial action designs for the Colbert Landfill area. CH2M Hill used site data which was available from studies completed prior to June 1983, to prepare this report for EPA. The completed study was distributed to EPA and WDOE on August 8, 1983. CH2M Hill's recommendation for an IRM was for implementation of "immediate measures" to provide safe drinking water,

if private wells were found to "contain significant organic contamination."

The groundwater studies show primary contamination by 1,1,1-trichloroethane and trichloroethylene in the area of study. Other organic contaminants found in smaller concentrations in the groundwater were chloroform, 1,1-dichloroethane, 1,2-dichloroethane, 1,2-dichloroethylene, 1,1-dichloroethylene, trichlorofluromethane bis (2 ethyl hexyl) phthalate, and 1,1,2-trichloro-1,2,2-trifluroethane.

Twenty-four households were involved in the well sampling portion of the Maddox Study. The Department of Ecology advised eight households, where well water contamination was measured at levels exceeding EPA's suggested no adverse response levels (SNARL), to cease using their water for drinking and cooking purposes. These residents are presently all using bottled water for these activities. Key Tronic is providing three of these households with bottled water. Spokane County will be required to share this cost with Key Tronic as defined by the pending resolutions of citizens' lawsuits. The remaining five households are providing their own bottled water supply, as they are suing Key Tronic and Spokane County for damages resulting from their groundwater contamination. The 16 residential wells with 1,1,1-trichloroethane contamination under the 100 mg/L SNARL value have not restricted the use of their well water. However, EPA has recommended a maximum contaminant level (MCL) allowable for 1,1,1-trichloroethane in drinking water of 200 ug/L. An increased level of this contaminant in drinking water above this recommendation triggers a concern over a

possible increase of health problems in the affected population. There is the potential that the contaminant level in these wells could increase with movement of the contaminant plume. The Spokane County Health District has not set a level for trichloroethylene contamination in well water which would be considered a danger to health. However, EPA's recommended MCL for trichloroethylene contamination in drinking water is zero.

The proposed Initial Remedial Measure for the Colbert Landfill site is to supply the residents in this area with an alternate water supply. The following section lists the various alternatives available to address the residents' contaminated water problem.

III. Alternative Actions There are eleven potential alternative courses of action identified below. A brief description of each alternative and the consequence of its implementation is presented.

Alternative A - No Action

The no-action alternative would require no change in the status quo. If no further action was taken at this site, the individuals presently using bottled water for their drinking and cooking needs would continue to do so. Without an on-going groundwater monitoring program, the potential contaminant plume's spread to other wells would be undetected. This could allow a chemical exposure to the residents which could be dangerous to their health. This potential adverse health effect is based on the population's exposure to chemicals in their water, above the EPA SNARL and maximum contaminant level allowable

limits. A map of the immediate area which indicates existing residences and wells that have been monitored is found on Exhibit 1. Exhibit 2 shows the results of wells monitored which had contamination above the EPA maximum contaminant level allowable limits. Both WDOE and the Washington Department of Social and Health Services (DSHS) have recommended that the residents not drink water contaminated above the SNARL level. Residents might leave the area, in order to protect themselves from potentially adverse effects of the groundwater contamination. One family with contaminated well water has abandoned their residence on the advise of their family physician. The physician stated "After reviewing (the documented contaminants in the well water) I told them I wouldn't bathe in or drink the water or irrigate my plants with it.... I told them my opinion was a medical one not an economic one. On medical grounds alone, I would get the heck out of there..... Any reasonable person would not voluntarily live in that area." Residents who remain and are exposed to the contaminated water could develop neurologic or oncologic problems. Those residents who decide to abandon their homes will suffer an enormous economic loss. Property values in this area have already been reassessed by the Spokane County Auditor. The value of these properties has decreased between 15% and 30%. Either chosing to stay or leave would undoubtly put the residents in litigation against Key Tronic, Spokane County Utilities, WDOE and EPA.

Alternative B: Bottled Water

Bottled water is presently being used by 8 of the residents with contaminated well water. To project the potential magnitude of this

alternative's cost, one could assume a minimum of 20 residences using bottled water for the next 50 years. This period of time is used for extrapolation in order to compare bottled water's cost to an alternative water supply system's cost. Water supply systems generally are assumed, for planning purposes, to operate for 50 years without any major repairs or renovations. Presently it costs $900 a year to supply a family in this area with bottled water for cooking and drinking requirements. This cost is based on Culligan's current rate for bottled water delivery of $1/gallon, for 15 gallons per household per week. The rental of the water dispenser is $15 per month. The 15-gallon/week usage rate is based on an average of the families presently using this service. Ignoring inflation and present value considerations, an estimated cost of this alternative bounded by the aforementioned assumptions, establishes the overall cost of this alternative of $900,000. This alternative does not cover the replacement water requirements for these residents' water consumption for bathing, cleaning, gardening for home consumption, and livestock maintenance. As this is a rural community, the latter activities pose the potential problem if contaminated water is used causing indirect human ingestion of the contaminants. Additional problems which could occur with the implementation of this alternative are similar to those in the "Alternative A: No Action" section.

Alternative C: Individual Home Filters

Treatment of the contaminated groundwater has been focused on the removal of the two primary contaminants 1,1,1-trichloroethane and trichloroethylene. In tests conducted by Gulf South Research

Institute of New Orleans, and published in March 1982 by EPA in their "Criteria and Standards Division Office of Drinking Water (WH-550) Third Phase/Update, Home Drinking Water Treatment Units Contract," the two osmosis carbon units, the ozonator carbon unit and the U.V./ activated carbon unit indicated some potential treatment capabilities on the removal of the aforementioned organics from groundwater. Experimental problems with early plugging of the filters and experimental design cast a doubt on the validity of this data and limited its interpretation. O. Thomas Love, Jr. and Richard G. Eilers published a report entitled "Treatment of Drinking Water Containing Trichloroethylene and Related Industrial Solvents" in the American Water Works Association Journal, Vol. 74, No. 8, August 1982. This report cited studies where granular activated charcoal beds were successful in removing 1,1,1-trichloroethane and trichloroethylene from water. However, the overall absorption capacity of the bed was not determined due to breakthrough of test compounds during the study. In theory boiling, aeration, reverse osmosis and ultrafiltration are capable of removing organics from water. All of the options are not available in a practical residential treatment system. Reverse osmosis and ultrafiltration have not successfully demonstrated an ability to remove 1,1,1-trichloroethane from water. The latter would probably never be practical for a molecule as small as 1,1,1-trichloroethane (MW 133.4, diameter 5Å)

To test the effectiveness of an activated charcoal filter system on the contaminated wells at Colbert, Key Tronic researched the available

systems, and decided on the Bruner F10-AC, a small granular activated charcoal bed system. One of the problems in selecting a filter unit to use on an individual residential well is that few units have been manufactured and tested for this demand. Installation of a pressure reduction valve would be required for the operation of an on line filter system. The alternative would be a holding tank for the filtered water. Calgon's smallest unit, the Disposorb, is capable of handling 10 gallons per minute (gpm) and contains 20 cubic feet of granular activated charcoal. These units retail for approximately $3000. The Bruner F10-AC contains 1 cubic foot of granular activated charcoal, can be run at 8 gpm and costs $900/unit installed. The optimal contact time recommended for the unit is 15 minutes. Theoretically, a 15 minute contact period for a 10 ppm 1,1,1-trichloroethane water contamination will reduce the contamination to a non-detectable amount. If the incoming contamination is 10 ppm, the maximum adsorption of 1 gram of activated charcoal will be 6 mg of 1,1,1-trichloroethane. If the incoming contamination is lower, 1 ppm, then the adsorption efficiency is reduced to 2.5 mg of 1,1,1-trichloroethane per gram of activated charcoal. The theoretical adsorption efficiencies of units will not be the same as the observed efficiencies. Some factors which will influence the adsorption of the unit in a test setting will be temperature, fluctuation in contaminant levels, and the presence of other materials which will interfere with contaminant adsorption.

The Bruner F10-AC was installed at Mr. Gary Wilson's house to test its effectiveness on the removal of the Colbert Landfill contaminants.

The unit was put directly on-line in the water system which minimized the contact period. The cost of a weatherproof holding tank to permit a maximum contact period of the water in the filter, was prohibitive for this experiment. The experimental filter unit was in operation from February 25, 1983 to November 21, 1983. During this time water samples were taken on nine occasions of pre and post filter water. The granular activated charcoal bed was replaced twice during this period. From the initial installation, the filter unit reduced the 1,1,1-trichloroethane (TCEA) contamination from 5 to 6 ppm to under 1 ppm, for the first 9,316 gallons of use. After an additional 14,528 gallons of water had passed through this unit, the test samples showed over 2 ppm of contamination passing through the filter. After a second test showing 3.5 ppm of 1,1,1-TCEA passing through the filter, the charcoal bed was changed. This new bed was never successful in reducing the 1,1,1-TCEA level below 1 ppm. Channelling within the packed charcoal bed was observed. After operating ineffectively for 29,891 gallons, this charcoal bed was removed and replaced. The third charcoal bed was operating effectively, decreasing the 1,1,1-TCEA below 1 ppm for 18,739 gallons of water. This concluded the data gathering effort on this unit.

The cost of implementing this alternative would initially be $900/filter unit. Given the variability of the adsorption efficiency, it would be desirable to run two of these filters in series. This would allow for the maximum use of the first filter in the series, which would not have to be removed until breakthrough occurred. The backup filter would then be placed on-line, as the primary filter and

the new filter would be its backup filter. This would raise the installation cost to $2,000/residence, which would include all the necessary valves and pipe to keep the system operating upon demand and facilitate the changing of filter units. This cost would also cover a chlorination unit for this system, to prohibit the growth of bacteria in the system. A representative of King Soft Water Company was responsible for the installation and maintenance of the test unit. He felt that monthly monitoring of this unit would be required to guarantee this system. Assuming that a minimum of 20 residential wells need the filter unit to maintain the 1,1,1-TCEA contamination below the SNARL level, the cost of purchase and installation would be $40,000 for this alternative. If the assumption is made that the operation, maintenance, and monitoring on these units will be required for 50 years, the cost would be $10/month/unit to collect samples or $120,000 subtotal, $130/month/unit for the analysis of 2 samples for 1,1,1-TCEA, trichloroethylene, and chloroform or $1,560,000 total; and on average a quarterly replacement of the charcoal beds at $250/charcoal bed or $1,000,000 subtotal. The total projected cost for the implementation of this alternative is $2,720,000. This projection does not reflect present value or inflation considerations. This alternative assumes that the homeowners' well pump will not be adversely effected by the pressure drop across the dual filter unit.

Alternative D: Colbert Water District No. 9, Drill New Wells

Colbert Water District No. 9 operates under the "Water System Plan" (Exhibit 3), which has been adopted by the Colbert District Water Commissioners, approved by the Washington State Department of Social

and Health Services (Exhibit 4) and the Spokane County Board of Commissioners (Exhibit 5). The approval and adoption by Spokane County made the Colbert Plan a portion of the overall Comprehensive Water Plan for Spokane County. Any development within the Colbert Water District's future service area must abide by the adopted plan, and be approved by the state and Spokane County.

The Colbert Water District No. 9 has had a history of insufficient water supply to fulfill their present needs (Exhibits 6 and 7). In order to supply the landfill area with an adequate supply of water and to conform to their approved "Water System Plan," Colbert Water District requested permission from WDOE to drill a new well (Exhibits 8 and 9). This new source was required to meet existing, as well as projected, needs for the district.

At the initial test of the well pumped 290 gpm. However, if put into service as a production well, this capacity would have to be reduced to 230 gpm. The Colbert Water District consulting engineer reported that this well did not produce enough water to supply the district's needs of 500 gpm. Subsequently, there was no further development of this well.

Alternative E: North Spokane Water Company, Service to the Landfill Area

The North Spokane Water Company was formed to serve an area previously within the Colbert Water District. This area had not been able to get a sufficient water supply from the latter, so they withdrew and formed

their own private water company. A new well was drilled within the North Spokane Company's service area, which produced only 470 gpm. The quality of the water was below DSHS' standards. The well water contained 0.221 ppm of manganese, while DSHS maximum contaminant level allowable is 0.05 ppm (Exhibit 10).

The Board of County Commissioners received a proposal from the North Spokane Water Company (NSWC) wherein they would provide water to the existing landfill area for $713,000. The issue of how the NSWC was going to adequately supply this region, as well as their current customers, with a sufficient quantity of quality water was never addressed.

When Spokane County approved the Colbert Water District's "Water System Plan" it included the adopted Comprehensive Generalized Water Plan for Spokane County. This officially established the future service boundary for the Colbert Water District. The State of Washington's Public Water System Coordination Act, Chapter 70.116 RCW, states that once a future service area is officially established, no other agency or purveyor has the right to serve within that area without the consent of the authorized purveyor and/or an amendment to the Comprehensive Generalized Water System Plan. The Colbert Water District would not relinquish the landfill area to NSWC for service.

Alternative F: Spokane County, Drill Well

The Board of County Commissioners of Spokane considered drilling a well in the vicinity of the landfill to supply the residences effected

by the landfill contamination. The county would have to obtain approval from the Colbert Water District to service the area. This alternative was never developed, due to concerns over the problem of drilling a well which would produce a sufficient water supply, and not be polluted by the groundwater contamination from the landfill.

Alternative G: Whitworth Water District -- Allow Colbert Water District to Enlarge Whitworth's Existing Well

The Whitworth Water District and the Colbert Water District conducted negotiations whereby Whitworth Water District would allow Colbert Water District to enlarge one of Whitworth Water District's wells for their use. An agreement (Exhibit 11) was drawn up and presented to both District Commissioners. The subsequent merger of the Whitworth Water District with the Colbert Water District made this agreement unnecessary. The ability to enlarge the 500 gpm well to produce a sufficient supply had been assumed, but not substantiated. The estimated cost of enlarging this well, regardless of the subsequent yield, was projected at $500,000. See map on Exhibit 12 for well location and transmission mains.

Alternative H: North Glen Estates Service Landfill Area

The North Glen Estates well system services a small subdivision (39 lots) approximately one mile west of the contaminated Colbert wells (Exhibit 12). This well system currently has a capacity of 200 gpm, but its design could be expanded to double its present capacity. The owners of the water system indicated a desire to sell, with the stipulation that the North Glen Estates subdivision receive an

adequate supply. There has not been any preliminary work done, to indicate that if the well were expanded it would produce the required amount of water. In addition, the water quality from an expanded system could be jeopardized by Colbert's contaminated groundwater plume, as the North Glen Estate's well is down gradient from the landfill.

Alternative I: City of Spokane Intertie

The City of Spokane lies directly south of the Colbert Water District and has a plentiful water supply. Its water sources produce more than enough water for the City of Spokane use, and therefore would be capable of supplying other areas. The City of Spokane and the Colbert Water District considered the possibility of an intertie between the two water purveyors (Exhibit 12). The project would require one mile of 18 inch transmission main and three miles of 16 inch main, at an estimated cost of $750,000. Additional costs for the implementation of this alternative would be approximately $48,500 for a booster pumping station; $225,200 for a 12 inch PVC transmission main from Colbert to Big Meadows Road; and $201,300 for the distribution system to the residents with contaminated groundwater. The subtotal of the above elements for this alternative is $1,225,000. In addition to these costs is a 10% construction contingency cost of $122,500, 10% engineering, inspection and administrative costs of $134,750 and $20,000 for easements and land. The total cost of the implementation of this alternative is $1,502,250.

Alternative J: Whitworth Water District -- Services through Little Spokane River Estates Subdivision

The Whitworth Water District proposed serving the Colbert Landfill area by connecting the water source serving the Little Spokane River Estates and Golden Estates subdivision, to the Colbert Water District (Exhibit 12). An 800 foot intertie would be required to join these two systems. If implemented, this alternative would utilize the existing 6 inch subdivision water lines for transmission mains. However, development in either of these subdivisions would require the replacement of the existing water lines with larger transmission mains, to meet the increased demand. If the subdivisions presently on this water line increase their demand due to development, the water source may not be adequate. The expansion of this source has not been investigated.

Alternative K: The Gleneden Plan

The Gleneden well 8A-2 is a part of the Whitworth Water District (Exhibit 13). This well is a proven water source, producing an ample quantity of quality water to serve its present distribution system and the Colbert Landfill area. The plan calls for moving the water from the Gleneden well to the Colbert area, and distributing that water to the appropriate dwellings. In order to accomplish this, approximately 10,000 feet of 16 inch transmission main pipe, 18,000 feet of 12 inch transmission main pipe, 7,800 feet of 8 inch pipe, 11,300 feet of 6 inch pipe, and all of the appropriate valving and safety devices will have to be installed. In addition one pumping station must be built, and creek and railroad corssings costs must be included.

A detailed breakdown of the costs of implementing this alternative is presented on the following page.

GLENEDEN ALTERNATIVE COST PROJECTIONS

Item 1: 16" D.I. Transmission Main
(Gleneden Well No. 8A-2 to Booster Pumping Station)

16" D.I. pipe, in place	10,000 L.F. @ $30.00	=	$300,000
16" Butterfly valve and box	2 ea. @ $3,000.00	=	6,000
River crossing	Lump sum	=	15,000
Creek crossing	Lump sum	=	9,500
County road crossing	Lump sum	=	3,500
4" Blowoff assembly	8 ea. @ $1,500	=	8,000
Pavement repair	Lump sum	=	3,500
	Subtotal	=	$345,500
	Plus 7.0% Sales Tax	=	24,200
	Total Item 1	=	$369,700

Item 2: Booster Pumping Station

Furnish and install 1,000 gpm pump	Lump sum	=	$ 6,000
Furnish and install elec. controls	Lump sum	=	$ 2,500
Valves, piping, and appurtenances	Lump sum	=	$ 4,800
Pumphouse, complete	Lump sum	=	$ 12,000
Level Control System	Lump sum	=	$ 20,000
	Subtotal	=	$ 45,300
	Plus 7.0% Sales Tax	=	3,200
	Total Item 2	=	$ 48,500

Item 3: 12" PVC Transmission Main
(Booster pump to Yale Road)

12" PVC pipe, in place	4,200 L.F. @ $14.00	=	$ 58,800
12" Butterfly valve and box	1 ea. @ $1,300	=	1,300
Existing system connections	Lump sum	=	6,000
Highway crossing	Lump sum	=	18,000
Railroad crossing	Lump sum	=	15,000
Pavement repair	Lump sum	=	3,500
	Subtotal	=	$102,600
	Plus 7.0% Sales Tax	=	7,200
	Total Item 3	=	$109,800

Item 4: 12" PVC Transmission Main
(Colbert to Big Meadows Road)

12" PVC pipe, in place	13,900 L.F. @ $14.00	=	$194,600
12" Butterfly valve and box	3 ea @ $1,300	=	3,900
Creek crossing	Lump sum	=	5,000
4" Blowoff assembly	5 ea. @ $800	=	4,000
Pavement repair	Lump sum	=	3,000
	Subtotal	=	$210,500
	Plus 7.0% Sales Tax	=	14,700
	Total Item 4	=	$225,200

Item 5: Distribution System

8" PVC pipe, in place	7,800 L.F. @ $10.00	=	$ 78,000
8" Butterfly valve and box	5 ea. @ $600	=	3,000
6" PVC pipe, in place	11,300 L.F. @ $8.00	=	90,400
6" Gate valve and box	5 ea. @ 500	=	2,500
Fire hydrant, complete	6 ea. @ $1,200	=	7,200
Pavement repair	Lump sum	=	7,000
	Subtotal	=	$188,100
	Plus 7.0% Sales Tax	=	13,200
	Total Item 5	=	$201,300

Total Items 1 through 5	=	$ 954,500
Plus 10% Construction Contingency	=	95,500
Total Estimated Construction Cost	=	1,050,000
Plus 10% Engr., Insp., and Admin.	=	105,000
Plus Easements and Land	=	10,000
TOTAL ESTIMATED COST FOR IMPLEMENTATION OF THE GLENEDEN ALTERNATIVE	=	$1,165,000

As Whitworth and Colbert Water Districts have merged, Whitworth Water District has the authority to service the Colbert area. An Interlocal Cooperative Agreement was signed between Spokane County and the Whitworth Water District No. 2 to legally enable these entities to jointly execute the Gleneden Plan.

The costs of operation and maintenance of this water system, or any of the alternative permanent water systems, would be incorporated into the water rate structure for the district served by this system.

IV. Initial Screening of Alternatives

The No Action Alternative (A) and the Bottle Water Alternative (B) allow for substantial direct contact of the population in residence near the Colbert Landfill, and the contamination in the groundwater. Water which is below EPA's SNARL limits but above EPA's maximum contaminant allowable limit for 1,1,1-trichloroethane is still being consumed by the population in the area as drinking or cooking water. Contaminated groundwater is currently used for bathing, cleaning, crop irrigation and livestock consumption. It would not be economically feasible or practical to acquire bottled water for all of these activities. The recent reduction of EPA's SNARL limit by three magnitudes to their maximum contaminant allowable level, represents a strong concern over the detrimental health effects of 1,1,1-trichloroethane. In order to protect the public health of the citizens in the area of contaminated groundwater, the use of this untreated water for the above activities must be terminated. Direct or indirect exposure to the contaminant through ingestion, inhalation, or direct skin contact will otherwise occur. This is not an acceptable risk for these citizens.

Several of the proposed alternatives depend upon locating a new source of groundwater or increasing the withdrawal from existing developed sources. Alternatives D and F propose the development of new wells to serve the Colbert area. Alternatives E, G, H, and J propose the expansion of existing wells to serve the Colbert area. The complex hydrogeology of this area makes all of these proposals very speculative in nature. The geographical area discussed in these plans has a

history of problems in groundwater procurement. Areas which have been targeted for new groundwater source development have on many occasions resulted in dry holes or inadequate supply, and did not warrant further development. When the prospect of implementing Alternative D was examined, a well yielding an insufficient supply of groundwater resulted. When the North Spokane Water Company drilled a well where their research had indicated an optimal water supply existed, the resulting well yielded only 470 gpm instead of the anticipated 750 gpm. George Maddox and Associates were contacted to investigate the groundwater contamination at Colbert Landfill, and seventeen monitoring wells were constructed. Of these seventeen wells, eight did not enter into the aquifer. Three of the remaining wells which originally withdrew groundwater later ran dry. These examples represent only a fraction of the unsuccessful well drilling efforts in this area. These efforts substantiate Maddox's findings of a very complex geographical profile. Therefore, it is very difficult to predict with any assurance, the success of a well drilling effort in this area for development of a water supply.

The quality of a new or expanded water source is also an unknown. In the case of North Spokane Water Company's new well, the water obtained did not meet DSHS standards because of its manganese content. A more serious contamination problem could occur if a well located in the vicinity of the landfill either directly tapped the contaminated groundwater, or caused a cone of depression which could result in a gradient reversal and subsequent influx of contaminated groundwater.

Due to the great uncertainty of obtaining a sufficient quantity of good quality water in proposed well drilling operations in this area, alternatives utilizing the development of a new groundwater source or expansion of an existing groundwater source are not considered feasible. This conclusion eliminates Alternatives D, E, F, G, H and J from further consideration.

V. Evaluation of the Alternatives

The alternatives remaining for discussion include individual home filters (C), City of Spokane Intertie (I), and the Gleneden Plan (J). Of these alternatives the Gleneden Plan is the most cost effective as it provides the Colbert residences effected by the groundwater contamination with an alternative water supply for $1,165,000. The individual filter units and the City of Spokane Intertie would cost an additional $1,555,000 and $337,250 respectively.

Implementation of the individual home filters alternative has a major risk involved, in that it has not been successfully tested or implemented at this site. The Gleneden Plan has very little risk involved as it utilizes a proven source of water, and presently is producing an ample quantity of quality water to serve its present distribution system and the Colbert Landfill area.

Implementation of the Spokane City Intertie would require the consent of the authorized purveyor, Colbert Water District No. 9 or an amendment to the Comprehensive Generalized Water System Plan. The Gleneden Plan would not require these additional legal requirements, as the

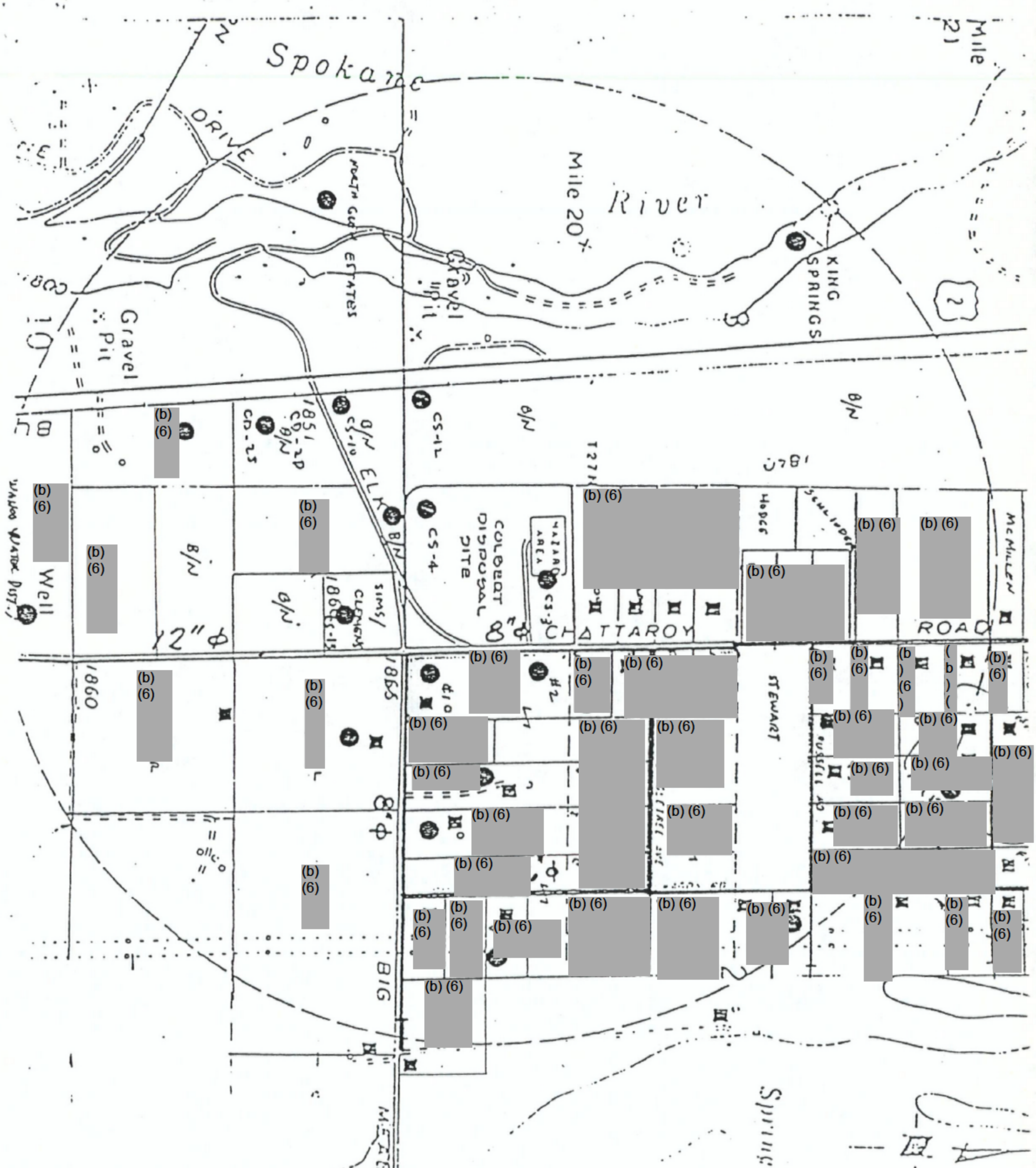
well to be used in this plan is in the Whitworth Water District No. 2. The Colbert Water District No. 9 has merged with the Whitworth Water District No. 2, and subsequently the Colbert Landfill area is a part of the authorized service area of this joint water district.

The Gleneden Plan represents the alternative water supply which can be implemented at the least cost and with the least risk of failure, of any of the proposed alternatives presented in this plan. The current Whitworth-Colbert Water District merger allows the Gleneden Plan to be enacted within an authorized water service area.

VI. Final Recommendation

The residents in the area of the Colbert Landfill require an alternative water supply in order to protect themselves from the detrimental health effects of their contaminated wells. The final recommendation of this Focused Feasibility Study is that the Gleneden Plan, described in this document, be implemented.

EXHIBITS



■ PERSONAL RESIDENCE

● MONITORED WELL

Exhibit 1

TABLE 4 - Compilation of analysis of 1,1,1-trichloroethene (∝T) and trichloroethylene (TCE) in groundwater of selected observation wells near the Colbert Landfill

Well	Aquifer	11/24/80*		12/5/80*		2/10-11/81*		12/9/81-1/6/82		5/28-6/10/82		1/8/83		2/11/83		3/8/83		4/5-8/83		5/20-23/83		6/14-21/83	
		∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)	∝T (ppb)	TCE (ppb)
CS-3	Upper	--	--	--	--	--	--	--	--	1600	47	900	18	780	33	625	38	690	38	270	35	165	35
CS-4	Upper	--	--	--	--	--	--	--	--	500	56	230	9	130	8	89	3	136	8	205	10	205	135
CS-10	Upper	--	--	--	--	--	--	--	--	1000	11	-- Dry --		-- Dry --		--	--	--	--	--	--	-	-
CS-12	Upper	--	--	--	--	--	--	--	--	950	8.9	-- Dry --		-- Dry --		--	--	--	--	--	--	-	-
CS-13	Upper	--	--	--	--	--	--	--	--	2200	250	-- Dry --		4860	174	3540	140	2020	100	2250	70	1980	145
CD-1	Lower	--	--	--	--	--	--	--	--	1300	n.d.	1800	< 1	5460	8	Not Sampled		2160	< 1	960	< 1	1740	< 1
CD-2S	Upper	--	--	--	--	--	--	--	--	--	--	760	21.5	780	21	580	25	550	18	420	20	420	18
(b) (6)	Lower	--	--	--	--	--	--	--	--	2000	2.7	5400	4.5	--	--	7080	<1	5160	4	5940	7	5400	7
	Lower	--	--	1250	n.d.	1080	n.d.	680	n.d.	--	--	4000	< 1	--	--	4500	2	3480	< 1	4140	< 1	4200	< 1
	Lower	10300	20	--	--	9400	12	950	0.2	--	--	650	4.5	--	--	6660	<1	5640	< 1	6188	6	5850**	5**
	Lower	--	--	1640	n.d.	1700	n.d.	770	n.d.	--	--	4500	< 1	--	--	3420	<1	3180	< 1	4980	< 1	5100	< 1
	Clay	1.7	n.d.	--	--	--	--	n.d.	n.d.	--	--	--	--	--	--	< 1	< 1	< 1	< 1	<1	< 1	< 1	< 1
	Granite	--	--	--	--	--	--	0.8	n.d.	--	--	--	--	--	--	< 1	< 1	< 1	< 1	<1	< 1	2	< 1
	Upper	--	--	--	--	--	--	--	--	--	--	--	--	900	<1	1340	<1	980	< 1	1200	< 1	1110	< 1
	Granite	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16	<1	6	< 1	15	< 1	22	< 1
	Lower	--	--	--	--	--	--	2.1	n.d.	--	--	--	--	--	--	7	<1	10	< 1	8	< 1	12	< 1
	Lower	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1	<1	< 1	< 1	<1	< 1	< 1	< 1
Wahoo Water Dist.	Lower	--	--	--	--	--	--	n.d.	n.d.	--	--	--	--	--	--	< 1	<1	< 1	< 1	<1	< 1	< 1	< 1
(b) Spring	Upper	14	n.d.	--	--	33	n.d.	44	n.d.	--	--	--	--	--	--	200	<1	560	< 1	350	< 1	320	< 1
N. Glen Estates	Lower	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1	<1	< 1	< 1	<1	< 1	< 1	< 1
(b) (6)	Granite	--	--	1.5	n.d.	--	--	0.4	n.d.	--	--	--	--	--	--	< 1	<1	< 1	< 1	<1	< 1	< 1	< 1
	Lower	1460	1	--	--	2100	n.d.	680	n.d.	--	--	4400	< 1	--	--	6000	2	5160	< 1	5220	< 1	5040	< 1
	Granite	--	--	--	--	--	--	25	n.d.	--	--	<1	< 1	--	--	< 1	<1	10	< 1	55	< 1	23	< 1
	Granite	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1	<1	< 1	< 1	<1	< 1	< 1	< 1
	Granite	--	--	1.4	n.d.	--	--	--	--	--	--	--	--	--	--	< 1	<1	< 1	< 1	<1	< 1	< 1	< 1
	Lower	--	--	--	--	--	--	0.6	n.d.	--	--	--	--	--	--	< 1	<1	< 1	< 1	1	< 1	< 1	< 1
	Lower	--	--	--	--	--	--	n.d.	n.d.	--	--	--	--	--	--	< 1	<1	< 1	< 1	<1	< 1	< 1	< 1
	Lower	--	--	44	n.d.	53	n.d.	--	--	--	--	--	--	--	--	3420	<1	2340	< 1	5040	< 1	3600	< 1
	Granite	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	< 1	<1	< 1	< 1	<1	< 1	< 1	< 1
Burlington	Upper	--	--	--	--	--	--	--	--	--	--	--	--	1500	5	1275	2	1050	< 1	990	7	930	6
CD-2D	Lower									50	n.d.							66	< 1	55	< 1	420	< 1

* Sampling protocol may be different from later samples.

** Sample results non-compatible with other wells because owner will not allow 30-minute pumping prior to sampling.

EXHIBIT 2

WATER SYSTEM PLAN

Colbert Water District No. 9
Spokane County

BOARD OF COMMISSIONERS

President: Lloyd Torgerson
Treasurer: Michael Stepper
Secretary: Herb Raling
Superintendent: James Kellogg
Attorney: Richard Schroeder

Pacific Environmental Consultants
N. 9107 Country Homes Boulevard #1
Spokane, Washington 99218

APRIL 1980

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PURPOSE AND SCOPE

This Comprehensive Plan has been prepared for the Board of Commissioners of the Colbert Water District to analyze their existing domestic water system, identify deficiencies, and establish an orderly improvement program for the future. The Plan is intended to comply with the Washington State Board of Health Regulations (WAC 248-54-580 and WAC 248-56-710).

The District Board of Commissioners has retained Pacific Environmental Consultants to conduct a study of the system and prepare the comprehensive planning document for their domestic water system. The results of this study are contained herein and cover the following aspects of the system:

1. Supply
2. Storage
3. Distribution
4. Fire Protection

The Scope of the Plan is limited to those areas with the Ultimate Service Area Boundary, as described in the County's Critical Water Supply Service Area falling within the non-rural land use designations, as shown in the County's Comprehensive Land Use Plan. A map showing the expected ultimate service area is enclosed. The District should be alert to discussion of expansion, especially to the East (Green Bluff) and to the North (Chattaroy Springs), as it is conceivable that these areas may wish to participate in the District. Plans for expansion in these directions must be drawn as the

need arises. This Plan has shown expected transmission grid expansion outside the present District boundary to provide a basis for planning expansion. It is beyond the Scope of this Plan to entertain development of all areas encompased by the ultimate service area boundaries.

SUMMARY AND CONCLUSIONS

Continual growth pressure will fall upon the District, due to the economic situation in Spokane County. This pressure will be to service predominantly residential users within the District boundary, as well as pressure to expand the District.

The existing system can supply adequate water to about 250 units. Within the existing system, a shortage of transmission capacity exists. Source and storage capacities are currently fully utilized.

Development of the system within the designated area can accommodate about 5,000 units. Improvements include four 3,300 g.p.m. wells, two 2.0 MG reservoirs, and installation of a transmission grid. Total estimated cost (1980 construction) is $5,066,000.

There exist several methods by which to finance the Water System Improvements. The appropriate use, singularly or in combination, of these methods is left to the decision of the Board of Commissioners.

Pacific Environmental Consultants recommends that the District install the improvements outlined on the Water System Improvement Map. Furthermore,

it is recommended that the District enlist the aid of a consulting geologist to locate well sites.

It is further recommended that the District pursue interties to all neighboring public water purveyors, with special emphasis on a large diameter intertie with the City of Spokane as a primary source of water to the District.

This Plan is intended to be used as a tool by the District in reaching its goals and meeting its present and expected obligations effectively. Implementation of the recommended improvements should provide the District adequate service to its customers, provide a method of achieving this service, and establish a solid base for future decisions relative to growth. The Comprehensive Water Plan for Colbert Water District No. 9, Spokane County, must necessarily be received as a facilitating step in the process of District development.

I. BASIC PLANNING DATA

LOCATION AND TOPOGRAPHY

The Colbert Water District is located North of the City of Spokane, in Spokane County. Presently, the District occupies all or part of the following Sections: 2 and 3 T26NR43E; 14, 15, 22, 23, 26, 27, 34, and 35 T27NR43E. Additionally, portions of Sections 36, 25, 24, 13, 12, 11, 2, and 1 of T27NR43E may be annexed to the District within the next 10 years, as these areas have been identified as being logical extensions

under work undertaken for the coordinated Water System Plan for Spokane County. Maps included in the Appendix outline present and future boundaries of the District.

The District encompasses approximately 2,500 acres. U. S. Highway 2 generally bisects the District North and South. The southern boundary of the District lies approximately two miles north of the present City of Spokane corporate limits. Within the CWSSA boundary, and designated "non-rural" by the County Comprehensive Land Use Plan are an additional 2,500 acres. The area of study for this Plan encompasses the 5,000 acres approximate total.

Colbert Water District lies along a gentle slope, for the most part, ascending generally from West to East. While the westerly-most areas drop to nearly 1,600 MSL (near the Little Spokane River), the bulk of the area within the District lies between 1800' MSL and 1,900' MSL, with the extreme northeast corner reaching 2,000' MSL. Areas in Section 1, 24, and 25 of T27R43E reach elevation in excess of 2,400' MSL. These areas are within the ultimate service boundary, but not the present District boundary. The area generally has a granular soil profile which supports pine forestation. The area is apparently not underlain to a significant degree by the Spokane Valley aquifer, which lies to the south and west of the District.

STATE OF
WASHINGTON

Dixy Lee Ray
Governor

DEPARTMENT OF SOCIAL AND HEALTH SERVICES
West 924 Sinto Avenue, [illegible] 24, Spokane, Washington 99201 509/456-3115

May 29, 1981

Colbert Water District No. 9
N. 15315 Newport Hwy.
Mead, Wa. 99021

Subject: Water System Plan

Gentlemen:

The Water System Plan received in this office April 17, 1980 together with additional information received September 24, 1980 and May 14, 1981 have been reviewed and, in accordance with the provisions of WAC 248-54-580 and WAC 248-56-710 is hereby APPROVED.

We acknowledge receipt of a final environmental document related to the subject plan and state that the contents of the document were used in the review process leading to this approval.

Sincerely,

John A. Beare, M.D.
Director
Health Services Division

Daniel K. Sander

Daniel K. Sander, P.E.
District Engineer

DKS:ei

cc: Spokane C.H.D.
Spokane Co. Utilities ✓
P.E.C.
State Health - Ken Merry
Al Rowe

Exhibit 4

NO. 82 0946

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF
SPOKANE COUNTY, WASHINGTON

IN THE MATTER OF ADOPTING AS AN ELEMENT OF THE SPOKANE COUNTY GENERALIZED COMPREHENSIVE PLAN AND AS THE SPOKANE COUNTY WATER GENERAL PLAN, THE SPOKANE COUNTY COORDINATED WATER SYSTEM PLAN, MARCH, 1982	))))))	FINDINGS OF FACT/DECISION (RCW SECTIONS 36.70.400 & 36.94.030)

WHEREAS, pursuant to the provisions of RCW Chapter 36.70, the Planning Agency for Spokane County, and particularly the Spokane County Planning Commission, has been duly created and has the obligation to consider Comprehensive Plan amendments and/or optional elements forwarded to them for review by the Board of County Commissioners pursuant to RCW Section 36.70.400; and

WHEREAS, pursuant to the provisions of RCW Chapter 36.94, the Board of County Commissioners of Spokane County must adopt a water general plan having certain elements; and

WHEREAS, pursuant to the provisions of RCW Section 36.94.030, if a County has adopted a Comprehensive Plan for its physical development as required by RCW Chapter 36.70, then the Water General Plan to be adopted pursuant to RCW Chapter 36.94 shall be adopted as an element of such Comprehensive Plan pursuant to applicable statutes; and

WHEREAS, pursuant to the provisions of RCW Section 36.94.070, the Water General Plan Review Committee recommended to the Board of County Commissioners of Spokane County the adoption of the Coordinated Water System Plan (CWSP); and

WHEREAS, pursuant to the provisions of RCW Section 36.94.030 and 36.70.430, the Board of County Commissioners of Spokane County under Resolution #82-0725, dated 7/27/82, forwarded the CWSP to the Spokane County Planning Agency for processing under RCW Chapter 36.70 as an amendment and/or optional element to the Spokane County Generalized Comprehensive Plan; and

WHEREAS, pursuant to the provisions of RCW Section 36.70.380 the Spokane County Planning Department did schedule before its Planning Commission a public hearing on September 7, 1982, to consider the CWSP as forwarded to the Planning Agency by the Board of County Commissioners; and

WHEREAS, the Director of the Utilities Department, pursuant to WAC 197-10 and the Spokane County Environmental Ordinance and acting as Responsible Official for Spokane County, did issue on 8/13/82 a proposed Declaration of Non-Significance in compliance with the Washington State Environmental Policy Act, RCW Chapter 43.21C; and

WHEREAS, no comments, adverse or otherwise, were received from any parties as a result of circulation of the proposed Declaration of Non-Significance; and

Exhibit 5

WHEREAS, after consideration of all public testimony, consideration of the environmental impacts, consideration of the CWSP in consert with the Comprehensive Wastewater Management Plan, July 1981, the '208' Water Quality recommendations, and the Spokane County Generalized Comprehensive Plan, the Spokane County Planning Commission, by Findings of Fact/Decision executed on 9/7/82, recommended that the Board of County Commissioners of Spokane County adopt the CWSP as the Water General Plan and as an element/amendment to the Spokane County Generalized Comprehensive Plan; and

WHEREAS, pursuant to RCW Section 36.94.080, the Board of County Commissioners of Spokane County, subsequent to the receipt of the recommendations of the Spokane County Planning Commission on the CWSP, held a public hearing on September 28, 1982 at 3:00 p.m. in the Assembly Room of the Board of County Commissioners of Spokane County at West 1116 Broadway Avenue, Spokane, Washington; and

WHEREAS, after considering all public testimony submitted at said public hearing, the environmental impact information and Threshold Determination issued by the Director of Utilities for the CWSP, the CWSP in and of itself, and having previously adopted the Comprehensive Wastewater Management Plan for the County, and accepted the recommendations of the 208 Water Quality Management Plan, and introduced into County policy documents such portions of said recommendations as were the County's legal responsibilities, and having knowledge of the recommendations of the Spokane County Planning Commission and particularly its Findings of Fact as issued on September 7, 1982, the Board of County Commissioners of Spokane County feels that the best interest of the public, the public health, safety and welfare of the inhabitants of Spokane County, as well as the physical, orderly development of Spokane County will be best met by adoption of the CWSP as the Water General Plan and as an element of the Generalized Comprehensive Plan for Spokane County.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Spokane County, pursuant to the provisions of RCW Section 36.94.090 and 36.70.400 respectively, that the Board does hereby adopt the CWSP, March, 1982, as the Water General Plan for Spokane County and as an element of the Spokane County Generalized Comprehensive Plan, a copy of which is attached hereto as Attachment "A: and incorporated herein by reference.

BE IT FURTHER RESOLVED by the Board of County Commissioners of Spokane County that the Planning Department Staff is authorized and directed to make nominal editoral adjustments to the text of the Generalized Comprehensive Plan to reflect the County's adoption of the CWSP as the Water General Plan and the Comprehensive Wastewater Management Plan as the Spokane County Sewerage General Plan, both an elements of the Generalized Comprehensive Plan.

BE IT FURTHER RESOLVED by the Board of County Commissioners of Spokane County that all agencies using the Spokane County Generalized Comprehensive Plan and the CWSP in their decision making processes are directed to coordinate both documents.

BE IT FURTHER RESOLVED by the Board of County Commissioners of Spokane County that in adopting the CWSP, as an element of the Spokane County Generalized Comprehensive Plan, the following Findings of Fact are hereby made:

1) That pursuant to RCW Chapters 36.94 and 36.70, the Board of County Commissioners of Spokane County has the legal authority to adopt a Water General Plan.

2) That pursuant to the provisions of RCW Section 36.94.030 the Board of County Commissioners of Spokane County, under Resolution #82-0725, forwarded to the Spokane County Planning Agency the CWSP for process-ing as an amendment and/or optional element to the Spokane County Generalized Comprehensive Plan and as the Water General Plan for the County.

3) That pursuant to RCW Chapter 43.21C, WAC regulations promolgated thereunder, and the Spokane County Environmental Ordinance (Spokane County Code Chapter 11) Proposed and Final Declarations of Non-Significance were respectively issued by the Director of the Utilties Department and the Chairman of the Board of County Commissioners and that all provisions of the Washington State Environmental Policy Act have been fullfilled.

4) That the Spokane County Planning Commission, after appropriate legal notice of the public hearing on September 7, 1982 and executed Findings of Fact/Decision on the 7th day of September, 1982, recommended that the Board of County Commissioners of Spokane County adopt the CWSP as the Water General Plan for the County and as an element of the Spokane County Generalized Comprehensive Plan.

5) That the Board of County Commissioners of Spokane County held a public hearing as required by law on September 28, 1982 on the CWSP.

6) That the Board of County Commissioners of Spokane County finds that the adoption of the CWSP is advisable and necessary for the public health, safety and welfare of the inhabitants of the County.

BE IT FURTHER RESOLVED by the Board of County Commissioners of Spokane County that the Planning Department staff is authorized and directed to comply with the provisions of RCW Chapter 43.21C.080.

PASSED and ADOPTED this 28th day of September, 1982.

BOARD OF COUNTY COMMISSIONERS OF SPOKANE COUNTY, WASHINGTON

ATTEST: WILLIAM E. DONAHUE
Clerk of the Board

By: _____
Deputy Clerk

E-5

THRESHOLD DETERMINATION

PROPOSED/FINAL DECLARATION OF NONSIGNIFIANCE

1. Proponent: Spokane County

   Contact Person: William R. Dobratz, Director of Utilities

2. County Action(s) Requested: Approval and Adoption of the Coordinated Water System Plan for Spokane County, March 1982, as an Element of the Spokane County Comprehensive Plan, pursuant to RCW 36.70.350 (6) as the Water General Plan for Spokane County, pursuant to RCW 36.94.030 and as a full-fillment of the requirements of the Public Water System Coordination Act, RCW, 70.116.

Review and Comment

If you wish to comment in writing as provided in WAC 197-10-340 (5), please respond in light of the following information, noting particularly the due date for written comments.

****

Proposed Declaration of Nonsignifiance issued: 8/13/82

Written response accepted until: 9:00 a.m. 9/7/82

A public hearing is scheduled for: 9:00 a.m., September 7, 1982
N. 721 Jefferson
Broadway Centre Bldg.

E-5

****

Contact: Spokane County Utilities Dept.
N. 811 Jefferson St.
Spokane, WA 99260 (509) 456-3604
ATTN: WILLIAM R. DOBRATZ

PROPOSED DECLARATION

Name: WILLIAM R. DOBRATZ
Signature: William R. Dobratz
Title: Direc
Dept.: Utilities
Date: 8-13-82

FINAL DECLARATION

Name: JOHN MC BRIDE
Signature: John McBride
Title: Chairman
Dept.: Board of County Commissione
Date: 9-28-82

MAILING LIST

INTEROFFICE MAIL

Spokane County Health District

INTEROFFICE MAIL

Boundary Review Board

WA. State Dept. of Ecology
Environmental Review Section
Mail Stop PV-11
Olympia, WA 98504

WA. State Dept. of Ecology
Regional Office
E. 103 Indiana
Spokane, WA 99207

WA State Dept. of Social and
Health Services
Olympia, WA 98504

WA State Dept. of Social and
Health Services
ATTN: Tom Justus
W. 924 Sinto/L-32/4
Spokane, WA 99201

E.

82 0946

COLBERT WATER DISTRICT #9
15315 North Newport Highway
Mead, Washington 99021
Telephone 466-7939

Regular meeting of the Colbert Water District # 9 held April 1, 1980 at Colbert Town Hall.

Present: Lloyd Torgerson- Chairman
Herb Raling- Secretary
Mike Stepper- Treasurer
Jim Baker-PEC CONSULTANTS
Tom Justus- State DSHS
Ray Huffman- Dept. of Ecology
Richard Schroeder-attorney for the district Others (26)

1. Motion by Herb Raling to officially adjourn continuance of March 4, 1980 meeting held March 13, 1980.
Seconded by Mike Stepper.
Commissioners Raling and Stepper voting "aye".

READING OF MINUTES

2. Minutes of 3-4-80 and 3-13-80 approved after correction of Par # 9, letter from state DSHS to read from Dan Sanders instead of Tom Justus.

OLD BUSINESS

3. Re: Manganese level in various wells in area of CWD.
(a) Tom Justus explained various procedures to eliminate or alleviate manganese levels to meet DSHS standards including cost and maintenance of each system.
(b) Mr. Justus also covered alternate solutions for CWD water problems ie, joint venture with Whitworth Water and/or intertie with city of Spokane and that the key to DSHS participation would be possibl bond issue next fall. Mr. Justus advised has scheduled a pre-liminary meeting for April 2, 1980 with other utilities. He also stated will not approve any future developers plans due to inadequate water source, unless already approved by commissioners.
(c) Mr. Schoner questioned if water available for existing and remaining lots within Peone Pines development? Commissioners explained errors were made in previous commitments and the distric trying to correct those mistakes.

4. Re: Creative Properties:
(a) Request by developers for approval of system design plan as submitted to district and DSHS with the understanding DSHS had made recommendations for changes before their agency could approve
(b) Motion by Mike Stepper give verbal approval of Creative Properties water system plan contingent on approval of CWD engineer and state DSHS.
Seconded by Herb Raling.
Commissioners Stepper and Raling approving and Commissioner Torgerson opposing. Motion carried.

5. Re: L & R Investments:
(a) Submitted preliminary proposal whereby the district would have

Exhibit 6

LAW OFFICES

DELLWO, RUDOLF & SCHROEDER, P.S.

ROBERT D. DELLWO
KERMIT M. RUDOLF
RICHARD J. SCHROEDER
TERRY W. MARTIN
HEDLEY W. GREENE
ROBERT J. ROBERTS

1018 OLD NATIONAL BANK BUILDING
SPOKANE, WASHINGTON 99201
(509) 624-4181

April 2, 1980

Mr. Ray Huffman
Washington State Department of Ecology
East 103 Indiana
Spokane, Washington 99207

Dear Mr. Huffman:

The purpose of this letter is to confirm the action taken by the Board of Water Commissioners of Colbert Water District #9 at their board meeting on April 1, 1980. It was the consensus of the board that Colbert Water District #9 does at the present time face an emergency situation because of the lack of consistently available water.

A motion was passed by the board directing me to prepare this letter to you for the purpose of declaring that such an emergency does in fact exist. The declaration is made for the purpose of requesting that a water permit request be given priority and specifically that the permit request submitted by Mr. Larry Wieber of L & R Investments on behalf of the Water District be processed expeditiously.

Yours very truly,

Richard J. Schroeder

RJS:mn

cc: Colbert Water District

Exhibit A-2

Exhibit 7

Pacific Environmental Consultants

May 11, 1983

Mr. Ray Huffman
DEPARTMENT OF ECOLOGY
East 103 Indiana Ave
Spokane, Washington 99207

Re: Colbert Water Dist. No. 9
Groundwater Application
No. G3-26779

Dear Mr. Huffman:

Reference is made to our telephone conversation of this date and a letter dated March 30, 1983, from Lloyd Torgerson, Chairman of the Colbert Water District. Mr. Torgerson's letter requested the above-referenced groundwater application be amended to include an additional point of withdrawal. Since that time we have gained more information about the possibilities of obtaining a good well in the area and have concluded that we will need to go south of Farwell Road if we expect to obtain a good source south of Peone Creek. Our sites mentioned in Mr. Torgerson's letter in the vicinity of Center and Freya roads do not appear to be very promising. Sites south of Farwell Road apparently would put us in the Valley aquifer and would no doubt solve the District's source problems. At the same time the transmission main costs increase such that financing becomes a substantial problem.

In addition to the above we also have information leading us to believe that we might be able to develop a good well in the area north of Peone Creek and south of the Mead Airport. As this would require minimal transmission main the District would like to pursue this possibility. Our present plan then is to initially drill a test hole. If we encounter clay materials we would stop and then the alternative would be to start looking for a site south of Farwell Road. If the test hole shows good water bearing sand and gravels we would like to proceed thru a pump test. If these results are favorable it would then be the District's desires to develop as large a production well as they could. We would like to drill an 8-inch test hole. In the event the expectations are not met and the test hole can produce some reasonable amount, say 2 or 3 hundred GPM, then the District would like to make it into a production well and at least solve some of their immediate problems.

Exhibit 8

S. 202 STEEN RD. - P. O. BOX 382 - VERADALE, WASHINGTON 99037
Telephone: (509) 924-36

In accordance with the aforementioned and as Engineers for the Colbert Water District No. 9 we do request premission for the District to drill an 8-inch test hole within the SE¼, NW¼, Section 3 T. 26 N., R. 43 E.W.M. More specifically, the test hole would be drilled within Tract 13 of the Garden City Plat and in close proximity to the intersection of Pine and Freya Streets. The enclosed map further illustrates the proposed test hole site. We anticipate drilling to a depth of at least 200 feet and deeper only if the ground stratum warrant further exploration. In addition, the District requests that tnis test hole site be added as an additional point of withdrawal to their Groundwater Application No. G3-26779.

It is important to the District's overall planning to determine the desirability or possibility of developing a production well on the test hole site even though they do not have a permit. They are prepared to proceed as soon as they receive permission from your Department.

We appreciate your assistance in this matter and please contact us if you have questions or need something additional.

Sincerely,

THOMAS G. HAGGARTY
Principal

TGH:jch

Enclosure

cc: Colbert Water District No. 9

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

May 16, 1983

Pacific Environmental Consultants
South 202 Steen Road
P. O. Box 382
Veradale, WA 99037

Attention: Mr. Thomas C. Haggarty

Re: Authorization for drilling and testing a well within the SE¼NW¼ of Sec. 3, T. 26 N., R. 43 E.W.M. - Ground Water Application No. G3-26779 (Colbert Water District No. 9)

Dear Mr. Haggarty:

Pursuant to your request in behalf of Colbert Water District No. 9 for authorization to construct and test a water well, the Department of Ecology (the department) hereby grants authorization for said purpose.

This authorization is granted for the purpose of gathering data so the department can adequately evaluate pending Ground Water Application No. G3-26779. Said application is for a community domestic supply in the amount of 2500 gallons per minute.

The authorization is granted for a period of sixty (60) days from the date of this letter for the express purpose of constructing and testing a well to be located within the SE¼NW¼ of Sec. 3, T. 26 N., R. 43 E.W.M. All data obtained during the test is to be submitted to the Department of Ecology, Eastern Regional Office, East 103 Indiana Avenue, Spokane, Washington, 99207. A water well report will be submitted upon completion of construction of the water well.

Withdrawal of ground water from the test well shall be limited to a total period of time not to exceed forty-eight (48) hours for test purposes only. Upon completion of the test, no more than 5,000 gallons of water per day shall be withdrawn from this point of withdrawal until a permit issues.

Exhibit 9

The granting of this authorization is not to be construed in any way as an approval of pending Ground Water Application No. G3-26779 (Colbert Water District No. 9) for a water right.

Please notify the department twenty-four (24) hours prior to the beginning of the pump or aquifer test.

Sincerely,

Rynear R. Huffman, Jr.
Resource Management Division

RRH:mm

cc: Colbert Water District No. 9
DSHS/Spokane Office
George E. Farmer, DOE/Spokane

COLBERT WATER DISTRICT
15315 North Newport Highway
Mead, Washington 99021
Telephone 487-8159

Office

Regular meeting of the Colbert Water District held August 7, 1979 at Colbert Town Hall, Colbert, Wa.

Present: Lloyd Torgerson- Chairman
Herb Raling- Secretary
Mike Stepper- Treasurer

Others (28)

READING OF MINUTES

1. Minutes of July 3, 1979 read and approved.

OLD BUSINESS

2. Re: Resolutions 97 and 98 corrections pending with Mr. Schroeder.

3. Re: Mantyla-Veltri-Colbert Heights sub-div.
(a) Developer has not submitted requested paper work necessary for the district to take over installation, commissioners recommend district co-ordinate with building codes dept. and DSHS, stop building permits and terminate water service. Three families on site. To check with Mr. Schroeder.

4. Re: Guthrie Investments.
(a) Dot Buchmiller indicated ready to drill on one of district well sites available by August 20, 1979.
(b) Approval for service given on Walter Knopp property in lieu of Hastings site, contingent on developer producing adequate water source.

NEW BUSINESS

5. Re: Water supply & low pressure.

(a) Don Hoekema and Frank Kennedy, representing R&E area, questioned, due to recent low pressure and curtailment of water if the district had a sufficient supply to service existing customers.
(b) Chairman explained, contract with WWP intertie has stipulation WWP reserves right to service their customers first,
(c) Leslie Esselburn representing Peone Pines development submitted a petition signed by the residents, questioning water supply and low pressure.
Chairman covered back ground problems the district has had with inadequate water supply and that a planned 10" main connection from Lane Park Rd. to Highland Rd. will help alleviate low pressure in that area.

Exhibit 10

6. Re: Ponderosa N. W. , developers of Shenandoah Forest, 165 unit mobile court.
   (a) Larry Wieber advised had drilled 352' with 8" casing and based on a crude test, estimated 300 gpm, however, quality test showed .221 ppm level of manganese, (0.05 ppm DSHS minimum level).
   (b) Commissioners approved letter of intent and assurance directed to developers financial institute, stating district desirous of working with Ponderosa N. W. .

7. Re: Commitments on existing develcpments.
   (a) Commissioners approved district engineer direct letter to Dennie Byram, DSHS, and building codes dept. explaining water situation, ~~existing water developments, additional water available to the system.~~
   (b) Question if developer and/or builders could institute suit against district referred to Mr. Schroeder.

8. Re: Commissioners fee.
   (a) Motion by Mike Stepper, commissioners receive $25.00 per meeting, maximum two (2) meetings per month, retro-active to June 5, 1979.
   Commissioners approved. Lloyd Torgerson abstained.

9. Meeting adjourned at 11:00 P. M.

ATTEST:

Lloyd N. Torgerson
Chairman

Secretary

Michael L. Stepper
Treasurer

Herb Ealing

_____, 1980, by and between COLBERT WATER DISTRICT NO. 9, 15215 North Newport Highway; Mead, Washington 99021, a municipal corporation in the State of Washington, hereinafter referred to as "Colbert," and WHITWORTH WATER DISTRICT NO. 2, North 10828 Waikiki Road, Spokane, Washington 99218, a municipal corporation in the State of Washington, hereinafter referred to as "Whitworth."

R E C I T A L S

1. Colbert is located directly east of and adjacent to Whitworth. Both are water districts created in accordance with Chapter 57 of the Revised Code of Washington.

2. Colbert is in need of additional water sources. Whitworth has a well located on property hereinafter described which is not used to its full extent at the present time and there is sufficient land upon which an additional well may be dug. Said well is designated by Whitworth as Well No. 8.

3. Said well is located directly east of Shady Slope Road just south of its intersection with Little Spokane River Drive on property which is legally described as follows:

> Beginning at a point on the east R/W line of Shady Slope Road 352 feet south easterly from the NW corner of the W. F. Spilker property, thence north easterly at right angles a distance of 100 feet, thence southeasterly at right angles a distance of 50 feet, thence southwesterly at right angles a distance of 100 feet more or less to the east R/W line of Shady Slope Road, thence northwesterly along the east R/W line of Shady Slope Road to the P.O.B.

4. It is the desire of Whitworth and Colbert to enter into an agreement whereby Colbert would dig a larger well at the site of the present Well No. 8 to provide water for Colbert and to allow some of the water to be used by Whitworth.

NOW, THEREFORE, Colbert and Whitworth for the considerations and mutual promises hereinafter stated agree as follows:

1. Colbert will apply for and obtain, if possible, funds made available through the passage of referendum number 27, which funds will be used to implement this agreement.

2. Colbert will be granted an easement on the site of Well No. 8 to drill a well large enough to be able to produce an anticipated minimum of 3,000 gallons per minute.

Exhibit

3. Colbert shall be solely responsible for obtaining the funds and paying for the digging of said well, for the payment for all necessary materials and equipment and the construction of the necessary pumping facilities for a pump station at that site to operate said well. Whitworth will cooperate in helping Colbert to obtain said funding.

4. It will be the sole responsibility of Colbert to install the necessary mains for transporting water from said well to a connection with existing Colbert Water District facilities. (It is anticipated that said main will go directly east from the well site, if Colbert is able to obtain the necessary easements. In the event that said easements cannot be obtained, it is presently anticipated that said main will travel in a northerly direction along Shady Slope Road to Little Spokane River Drive; thence north to Colbert Road; thence east to a connection with an existing line of Colbert.

5. Whitworth will be entitled to 1,000 gallons per minute of water from said well; for which they will pay their proportionate share of the cost for pumping said water.

6. In the event Colbert installs a transmission/distribution main along the route going northerly from the well along Spokane River Drive, Whitworth may participate in the cost of its installation from Midway Road to the intersection of Little Spokane River Drive and Colbert Road. This shall be at the prerogative of Whitworth with terms to be negotiated. The well and pumping station and discharge lines shall be the joint property of Whitworth and Colbert, however, Whitworth shall operate and maintain said facility and shall bill Colbert for the cost of said operation on a prorata basis. Said cost shall include all overhead costs.

7. It is anticipated that the main from the new well to its connection with the Colbert water system will be either a twelve inch or a sixteen inch pipe, which shall be determined by Colbert at the time of the installation and shall be governed to some extent by the amount of water that is available from the well.

8. All of the construction and material used to implement this agreement shall be in accordance with the specifications of Whitworth Water District.

9. Whitworth shall apply for and obtain in the name of Whitworth Water District all water rights necessary to implement this agreement.

10. This contract is to be in accordance with the requirements of and by the authority of RCW 57.08.045.

11. Term: In the event that said funding is obtained, the well is dug and it produces sufficient water for Colbert to obtain water from said well, then and in that event, the parties hereto agree that Colbert shall have the right to receive all water in excess of 1,000 gallons per minute, subject to the terms of Paragraph 5, for a period of 50 years.

12. This agreement shall be binding upon all assigns and successors in interest of the parties hereto.

13. In the event of any litigation arising out of disagreement between the parties for the performance of this agreement, the party found by the Court to be at fault agrees to pay the prevailing party a reasonable attorney's fee in such amount as set by the Court.

COLBERT WATER DISTRICT NO. 9

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WHITWORTH WATER DISTRICT NO. 2

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